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ANTIDEGRADATION

Nevada Revised Statutes (NRS) 445A.565 contain the State's antidegradation requirements. NRS 445A.565 states:

> "Any surface waters of the state whose quality is higher than the applicable standards of water quality as of the date when those standards became effective must be maintained in their higher quality. No discharges of waste may be made which will result in lowering the quality of these waters unless it has been demonstrated to the commission that the lower quality is justifiable because of economic or social considerations."

NRS 445A.565 is implemented through the establishment of requirements to maintain existing higher quality.

A requirement to maintain existing higher quality or RMHQ is established when the monitoring data show that existing water quality for individual parameters is significantly better than the standard necessary to protect the beneficial uses. If adequate monitoring data exist, requirements to maintain existing higher quality (RMHQs) are established at levels which reflect existing conditions. This system of directly linking antidegradation to numeric objectives provides a manageable means for implementing antidegradation through the permit program and other programs.

To data, RMHQs have been set for routine parameters such as temperature, pH, phosphorus, nitrogen, chlorides, sulfates, total suspended solids, total dissolved solids, fecal coliform, etc. No RMHQs have yet to be set for the toxics identified in NAC 445A.144 such as arsenic, boron, cadmium, copper, lead, etc., but this need will be reviewed in the future.

Methodology for Establishing and Revising RMHQs

RMHQs are generally established at the 95th percentile of data, which is defined as the 95th ranked value of a sample population distributed into one hundred equal parts. At this time, RMHQs are only proposed or revised if there is greater than five years of data for single value RMHQs, or greater than 10 years of data for annual average RMHQs, with a minimum of two samples per year. In cases where two or more monitoring sites exist for one reach, only the data from the most downstream site is considered. Additional research is planned to better determine minimum sampling requirements for statistically valid RMHQ development. It is likely that more than two samples per year are needed to estimate the 95^{th} percentile for most pollutants.

During the RMHQ review process, staff may identify the need to either relax or tighten the existing RMHQs. Before RMHQs can be relaxed, certain conditions must be met as discussed in the following section. Tightening of RMHQs may be appropriate if there has been significant changes on the system, such as the removal of a major point source discharge, construction of a dam, etc. In general, if the percent improvement between the 95th percentile and the existing RMHQ is greater than 25%, the RMHQ is revised. If the

improvement is less than 25%, no changes to the existing RMHQ are proposed. For parameters which have relatively high beneficial use standard (BUS) concentrations such as total dissolved solids, chloride and sulfate, RMHQs are usually not established at values less than 10% of the BUS. For example, the sulfate BUS is 250 mg/l; therefore, the lowest RMHQ that will be established is 25 mg/l. (Note: in the past, RMHQs were established at 95th percentile values regardless of how small those values were. The Division is not proposing to revise existing RMHQs that may be lower than 10% of the BUS). In summary:

- RMHQs generally established at 95th percentile of data;
- RMHQs once established are not revised; unless, there is greater than 25% improvement in water quality; and
- A RMHQ is not established at values less than 10% of BUS.

Relaxing RMHQs

Nevada's antidegradation statutes allow degradation of existing water quality only after the State Environmental Commission (SEC) finds that such degradation is justified to accommodate important economic or social development. In allowing such degradation, the SEC will assure that water quality is adequate to protect existing uses. Specifically, an RMHQ can be relaxed, but a beneficial use standard can not be relaxed to accommodate economic or social development. This provision is intended to provide relief only in extraordinary circumstances where the economic and social need for the activity clearly outweighs the benefit of maintaining the existing high water quality above that required to protect the beneficial use. The burden of proof that degradation is necessary for economic or social development falls on the person/entity proposing to degrade the higher quality water. This proof should include, but not limited to, the following:

- Assess existing water quality:
  - Document the degree in which the higher quality water is superior to the BUS.
  - Determine which parameters will be impacted.
  - Determine which beneficial uses will be impacted.

- Quantify amount water quality will be lowered.

- Analyze the current state of economic and social development, including:
  - Population
  - Area employment;
  - Area income;
  - Manufacturing profile: types, value, employment, trends;

- Describe the area's use or dependence upon the water resource affected by the proposed action.

- Provide evidence that economic and/or social development will occur. Demonstrate the extent to which the sought-for decreased level of water quality would create an incremental increase in the rate of economic or social

development and why the change in water quality is necessary to achieve such development. Include:

- Expected plant expansion;
- Employment growth;
- Direct and indirect income effects;
- Increases in the community tax base

- Demonstrate why such economic and social development requires the lower water quality. Show that best available wastewater treatment and best management practices are or will be implemented. Identify other alternatives or other mitigation measures which would prevent degradation of water quality.

- Include an assessment of the overall environmental benefits.

The State will assure that the highest statutory and regulatory requirements for all new and existing point sources and all cost-effective and reasonable best management practices for nonpoint source control are implemented. Where a water constitutes an outstanding national resource, higher water quality will be maintained and protected.

Use of RMHQs in 303(d) Listings

RMHQs are established based on ambient water quality data. The quality of these waters may exceed that necessary to fully protect beneficial uses. It is the State's intention that a primary use of RMHQs is to meet the antidegradation requirements of the CWA and Nevada Revised Statutes. As stated in 40 CFR 131.12, where water quality exceeds levels necessary to support propagation of fish, shellfish, and wildlife and recreation, that quality shall be maintained and protected unless the State finds that allowing lower water quality is necessary to accommodate important economic or social development in the area where the water is located. As stated earlier, the State's antidegradation requirements at NRS 445A.565 state that no discharges of wastes may be made which will result in lowering the quality of higher quality waters unless it has been demonstrated to the Commission that the lower quality is justifiable because of economic or social considerations. However, in allowing such discharges, the State shall assure water quality adequate to fully protect existing uses. Therefore, when RMHQs are found to be exceeded, NDEP will undertake an analysis to determine the potential for fully protecting the beneficial uses. Initially, this analysis will consist of a trend analysis. Results from the trend analysis will be used to determine additional actions. Because RMHQs may be set at levels more stringent than necessary to fully protect all beneficial uses, it is not required that a water be placed on the 303(d) list automatically if the only basis for listing is that an RMHQ is exceeded.